# 中国拟裸蝗属分类研究及二新种记述 (鳞翅目:斑腿蝗科)

郑哲民<sup>1</sup>,牛 瑶<sup>1</sup>,石福明<sup>2</sup>

(1. 陕西师范大学动物研究所, 西安 710062; 2. 河北大学生命科学学院, 河北保定 071002)

摘要:记述了我国拟裸蝗属 10 种,其中有 2 新种,即香格里拉拟裸蝗 Conophymacris xianggelilaensis sp. nov. 及九龙拟裸蝗 Conophymacris jiulongensis sp. nov.,附有分种检索表和种类分布。模式标本保存于陕西师范大学动物研究所及河北大学博物馆。

关键词:直翅目; 班腿蝗科; 拟裸蝗属; 分类; 新种

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# A taxonomic study of the genus *Conophymacris* Willemse (Orthoptera: Catantopidae) from China, with descriptions of two new species

ZHENG Zhe-Min<sup>1</sup>, NIU Yao<sup>1</sup>, SHI Fu-Ming<sup>2</sup> (1. Institute of Zoology, Shaanxi Normal University, Xi'an, 710062, China; 2. College of Life Sciences, Hebei University, Baoding, Hebei 071002, China)

**Abstract:** The genus *Conophymacris* Willemse from China was reviewed, with ten species recorded, including two new species: *Conophymacris xianggelilaensis* Niu et Zheng, sp. nov. and *Conophymacris jiulongensis* Zheng et Shi, sp. nov. A key to the species of *Conophymacris* from China is provided. Type specimens are kept in the Institute of Zoology, Shaanxi Normal University and Museum of Hebei University.

Key words: Orthoptera; Catantopidae; Conophymacris; taxonomy; new species

拟裸蝗属 Conophymacris 为 Willemse 1933 年建立(Willemse, 1933),属模式种 Conophymacris chinensis,标本采自于云南昆明;张光朔(1937)报道了 C. szechwanensis;郑哲民(1977, 1980)报道了 C. yunnanensis 及 C. viridis;毕道英和夏凯龄(1984)报道了 C. conicerca;梁 铭 球(1993)报道了 C. nigrofemora;王裕文(1993)报道了 C. chuxiongensis;郑哲民,和毛本勇(1996)报道了 C. cangshanensis,至此共计有 8 种,均分布于我国云南和四川地区。在整理近年来采自云南和四川等地标本时,又发现 2个新种,模式标本保存于陕西师范大学动物研究所及河北大学博物馆。

### 拟裸蝗属 Conophymacris Willemse, 1933

Conophymacris Willemse, 1933, Naturh. Maandblad 22(2): 16; Bei-Bienko and Mistshenko, 1951, Acridoidea of the USSR and Adjacent Countries: 180; Mistshenko, 1952, Fauna of the USSR, IV(2), nov. ser. 54 (Catantopinae): 71, 201 – 203; Xia, 1958,

Synop. Classifi. Chinese Acridoidea: 45 – 46; Zheng, 1985, Acridoidea from YGSSN Regions: 152; Zheng, 1993, Acritaxonomy: 131; Li and Xia, 2006, Fauna Sinica, Insecta 43: 352.

模式种: Conophymacris chinensis Willemse, 1933

体中型,通常具细刻点。头短,颜面侧观略向后倾斜,颜面隆起纵沟明显。复眼卵圆形,较突出。触角丝状,细长,超过前胸背板后缘。前胸背板前缘平直,后缘圆弧形,中央微凹;中隆线较高,侧隆线明显,直或在沟前区处略凹;沟前区长度大于沟后区。前胸腹板突圆锥形,顶端略尖;后胸腹板侧叶明显分开。前翅较小,鳞片状,侧置,在背部不相毗连,翅顶圆形,长度超过第1腹节背板后缘;后翅极小,不发达。后足股节匀称,上侧中隆线平滑,下膝侧片顶端圆形或圆角形突出;后足胫节具外端刺。鼓膜器发达,孔卵圆形。雄性腹部末节背板后缘无尾片。肛上板宽盾形,端部圆角形突出。尾须较扁,基部和端部较宽,中部细或成锥形。下生殖板短锥形。阳具基背片挢状,桥部平直

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作者简介:郑哲民, 男, 1932 年生, 教授, 长期从事于蝗虫分类研究, E-mail: zhengzhemin@163.com

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或拱形,具锚状突,冠突一对,其下缘中部翘起。 常具3个突起;上产卵瓣之上外缘不具细齿或具雌性肛上板长三角形;尾须短锥形;下生殖板后缘 钝齿。

#### 中国拟裸蝗属分种检索表

1(2) 雌性下生殖板后缘中央凹入;前胸腹板突前后扁平。分布于云南(楚雄)	
2(1) 雌性下生殖板后缘中央三角形突出;前胸腹板突圆锥形	·· 楚雄拟裸蝗 C. chuxiongensis Wang, 1993
3(4) 雄性尾须锥状。分布于云南(保山)	···· 维星拟裸螅 C. conicerca Bi et Xia. 1984
4(3) 雄性尾须基部和端部扩宽	THE STATE OF COMMON CO. D. C. LINE, 1901
5(6) 后足胫节褐色。分布于云南(个旧、师宗、马关、文山)	··· 云南拟裸蝗 C. vunnanensis Cheng. 1977
6(5) 后足胫节红色	7 H378/32 37 / January 2011-18, 127 /
7(8) 雄性尾须后下角内折。分布于云南(香格里拉) 香格里拉拟裸	蝗 C. xianggelilaensis Niu et Zheng sp. nov.
8(7) 雄性尾须末端扁平,后下角不内折	55
9(12) 雄性尾须后下角锐角形	
10(11) 后足股节内侧全黑色; 雄性尾须后上角较尖, 锐角形。分布于云南(丽江)、[	四川(盐源)
	····· 黑股拟裸蝗 C. nigrofemura Liang, 1993
11(10) 后足股节内侧大部为黑色, 具明显淡色斑; 雄性尾须后上角较钝, 钝角形或	
源、大姚、永胜、丽江、香格里拉) · · · · · · · · · · · · · · · · · · ·	
12(9) 雄性尾须后下角钝角形或圆形	, ,
13(16) 雄性尾须后缘弧形,后下角近圆弧形;雄性下生殖板顶钝	
14(15) 雄性前胸背板侧隆线在沟前区略弯曲;后足股节内侧全黑色;后足胫节红色	; 雌性翅长为宽的 1.6 倍; 雌性下生殖板后
缘具三突起,中齿小。分布于云南(保山)、四川(昭觉)	
15(14) 雄性前胸背板侧隆线在沟前区直;后足股节内侧大部为黑色,中部及端部具	
近基部具淡色环; 雌性翅长为宽的 1.25 倍; 雌性下生殖板后缘具三突起, 中齿	
16(13) 雄性尾须后缘近平直,后下角近钝角形;雄性下生殖板顶尖	
17(18) 触角较细长,中段一节的长度为宽度的3~4倍;体型较大,体长; 327~31	mm, ♀35~40 mm。分布于四川(峨眉山)
18(17) 触角较粗短,中段一节的长度为宽度的2~2.5倍;体型较小,体长: 320~2	
泽、富民)、重庆	···· 中华拟裸蝗 C. chinensis Willemse, 1933
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Key to species of Conophymacris Willemse from 1(2) Hind margin of subgenital plate of female concave in the middle; prosternal process relatively flat (Chuxiong)  2(1) Hind margin of subgenital plate of female with a triangular process in the middle; prosternal process 3(4) Cerci of male conical. Distribution in Yunnan (Baoshan)  4(3) Cerci of male widened on basal and apical parts.  5(6) Hind tibia brown. Distribution in Yunnan (Gejiu, Shizong, Maguan and Wenshan)  6(5) Hind tibia red.  7(8) Cerci of male folded on lower margin of apex. Distribution in Yunnan (Xianggelila)  8(7) Cerci of male flat on apex, postero-lower angle not folded.  9(12) Cerci of male postero-lower angle acutangular.  10(11) Inner side of hind femur black; postero-upper angle of male acutangular. Distribution in Yunnan (Dali, Binchuan, Jianchuan, Eryuan, Dayao, Yongsheng, Lijiang and Xianggelila)  12(9) Cerci of male postero-lower angle obtuse angular or nearly round.  13(16) Hind margin of cerci of male arc, postero-lower angle rounded; apex of subgenital plate of male 14(15) In male, lateral keels of pronotum slightly curved in prozona; inner side of hind femur black; width; hind margin of subgenital plate of female with three teeth, middle one small. Distribution	ted in front and behind faces. Distribution in Yunnan  C. chuxiongensis Wang, 1993  ess conical.  C. conicerca Bi et Xia, 1984  C. yunnanensis Cheng, 1977  C. xianggelilaensis Niu et Zheng, sp. nov.  an (Lijiang), Sichuan (Yanyuan)  C. nigrofemora Liang, 1993  of male obtuse-angular or nearly round. Distribution in  C. cangshanensis Zheng et Mao, 1996  le obtused.  hind tibia red; length of elytra of female 1.6 times its  a in Sichuan (Zhaoiue), Yunnan (Baoshan)  C. viridis Zheng, 1980
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Key to species of Conophymacris Willemse from 1(2) Hind margin of subgenital plate of female concave in the middle; prosternal process relatively flat (Chuxiong)  2(1) Hind margin of subgenital plate of female with a triangular process in the middle; prosternal process 3(4) Cerci of male conical. Distribution in Yunnan (Baoshan)  4(3) Cerci of male widened on basal and apical parts.  5(6) Hind tibia brown. Distribution in Yunnan (Gejiu, Shizong, Maguan and Wenshan)  6(5) Hind tibia red.  7(8) Cerci of male folded on lower margin of apex. Distribution in Yunnan (Xianggelila)  8(7) Cerci of male flat on apex, postero-lower angle not folded.  9(12) Cerci of male postero-lower angle acutangular.  10(11) Inner side of hind femur black; postero-upper angle of male acutangular. Distribution in Yunnan (Dali, Binchuan, Jianchuan, Eryuan, Dayao, Yongsheng, Lijiang and Xianggelila)  12(9) Cerci of male postero-lower angle obtuse angular or nearly round.  13(16) Hind margin of cerci of male arc, postero-lower angle rounded; apex of subgenital plate of male 14(15) In male, lateral keels of pronotum slightly curved in prozona; inner side of hind femur black; width; hind margin of subgenital plate of female with three teeth, middle one small. Distribution	ted in front and behind faces. Distribution in Yunnan  C. chuxiongensis Wang, 1993  css conical.  C. conicerca Bi et Xia, 1984  C. yunnanensis Cheng, 1977  C. xianggelilaensis Niu et Zheng, sp. nov.  an (Lijiang), Sichuan (Yanyuan)  C. nigrofemora Liang, 1993  of male obtuse-angular or nearly round. Distribution in  C. cangshanensis Zheng et Mao, 1996  de obtused.  hind tibia red; length of elytra of female 1.6 times its in Sichuan (Zhaoiue), Yunnan (Baoshan)  C. viridis Zheng, 1980  and apical part light; apical two-thirds of hind tibia re, its width; hind margin of subgenital plate of female with

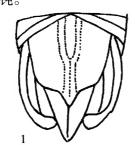
- 16(13) Hind margin of cerci of male straight, postero-lower angle obtuse angular; subgenital plate sharp.

### 新种记述

# 1 香格里拉拟裸蝗,新种 Conophymacris xianggelilaensis Niu et Zheng, sp. nov. (图1~4)

雄性:体中型,粗壮。头短,缺头侧窝;颜面略倾斜,具粗大刻点,颜面隆起在中央单眼以上的纵沟明显,中央单眼以下不明显。复眼卵圆形,稍突出,复眼纵径为横径的1.3倍,为眼下沟长度的1.5倍。触角丝状,略超过前胸背板后缘,中段一节长为宽的2倍。前胸背板前缘平直,后缘弧形,中央微凹;中、侧隆线明显,沟前区长为沟后区长的1.4倍。前胸腹板突圆锥形,顶端尖。前翅小,鳞片状,侧置,在背部不毗连,其长为宽的1.7倍;后翅甚微小。后足股节上侧中隆线平滑,下膝侧片顶端圆形。后足胫节外侧具刺8~10个,具外端刺,内侧具刺10~11个。鼓膜器发达,卵圆形。肛上板宽稍大于长,两侧的中部略凹入,后缘中央三角形突出。尾须较细长,基部最宽,中部狭,端部稍宽扁,端部后下角突出,内折。下生殖板短锥形,顶钝。

2



体褐色。颜面、颊、前胸背板侧片下半部色较浅,黄褐色。前翅褐色,臂脉域黄褐色。后足股节上侧绿色,外侧黑色,下半近端部具一黄色纵纹,下侧暗绿色,内侧几乎全黑色,仅下缘近基部具暗红色纵纹,中部具一小黄斑。胫节紫红色。

雌性:结构和体色与雄性相同。肛上板三角 形。产卵瓣粗短,外缘无细齿。下生殖板后缘具三 突起,均呈三角形,中央一个较细小。

体长: 319.5~25 mm; \$25.5~29 mm 前胸背板长: 35.8~6 mm; \$6.5~7.2 mm 前翅长: 34~5 mm; \$4.5~5 mm 后足股节长: 312~13 mm; \$13.5~14 mm 正模3,云南: 香格里拉( 铺上), 1998-09-13,3000 m, 欧晓红采; 副模30320\$, 同正模。

该新种近似于黑股拟裸蝗 Conophymacris nigrofemora Liang, 1993, 但雄性尾须后下角内折, 肛上板长略大于宽,后足胫节内外侧刺较少;阳具基背片形状不同(图 4,5)。

词源:新种名以模式产地"香格里拉(Xianggelila)"命名。

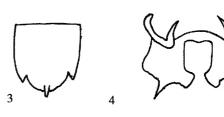


图 1~4 香格里拉拟裸蝗

Figs. 1 - 4 Conophymacris xianggelilaensis sp. nov.

1: 雄性腹端背面 ♂, terminalia, dorsal view; 2: 雄性尾须 ♂, cerca; 3: 雌性下生殖板 ♀, subgenital plate; 4: 阳具基背片 Epiphallus

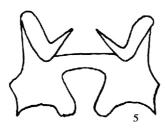


图 5 黑股拟裸蝗的阳具基背片

Fig. 5 Epiphallus of Conophymacris nigrofemora Liang

色。后胸前侧片黄褐色。前翅黑褐色, 臀域黄褐色。

后足股节上侧绿色,外侧上半部绿色,下半部黄色,在中部具二黑班,膝部黑褐色;下侧黄绿色,在下侧内面

基部 1/3 红色; 内侧大部黑色, 中部具一个三角形淡

黄色斑, 近端部具淡黄色环。后足胫节端 2/3 红色,

缘,中段一节长为宽的1.75倍。前胸背板沟前区的长

度为沟后区长的1.7倍。前翅长为宽的1.25倍。肛上

板三角形,中央具纵沟,中部横沟明显。尾须短锥形。

产卵瓣较长,上瓣之长为宽的4倍,上外缘具钝齿。

前胸背板长: ♂5.5~6 mm; ♀6.5~7 mm

后足股节长: ♂12~13 mm; ♀14.5~15 mm

正模 ð,四川:九龙(洪坝),2008-09-23,石福

该新种近似于绿拟裸蝗 Conophymacris viridis

Zheng, 1980, 但雄性前胸背板沟前区侧隆线直; 后

足胫节端 2/3 红色, 基 1/3 黑色, 近基部具一淡黄

色环; 雌性前翅长为宽的 1.25 倍; 下生殖板后缘具

词源:种名以模式标本产地"九龙(Jiulong)"为名。

下生殖板后缘具三齿, 中齿较大。

明采; 副模 11 ♂12♀, 同正模。

三齿,中齿较大而区别。

体长: 324 mm; ♀31~34 mm

前翅长: ♂4~4.5 mm; ♀4~5 mm

体色同雄性。

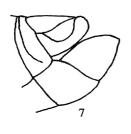
雌性:体较雄性粗大。触角刚到达前胸背板后

基 1/3 黑色, 近基部具一淡黄色环。跗节褐色。

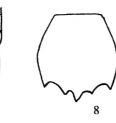
## 2 九龙拟裸蝗,新种 Conophymacris jiulongensis Zheng et Shi, sp. nov. (图 6~9)

雄性:体中型,较粗壮。头顶向前倾斜,在复 眼间的距离大于颜面隆起在触角之间宽的 2 倍;缺 头侧窝;侧面观,颜面略倾斜,与头顶形成钝圆角 形,颜面隆起侧缘近平行,自触角基部之间向下至 中央单眼之下具纵沟,具粗大刻点。复眼卵圆形, 复眼的纵径为横径的 1.75 倍, 为眼下沟长的 1.75 倍。触角丝状,超过前胸背板后缘,中段一节长为 宽的 1.75~2 倍。前胸背板前缘平直,后缘宽弧 形,中央微凹;中、侧隆线均明显,侧隆线直,不弯 曲;后横沟切断中、侧隆线,沟前区的长度为沟后 区长的 1.5~1.7 倍; 前胸背板侧片后下角圆弧形; 在背板的沟后区密具粗大刻点。前胸腹板突圆锥 形;中胸腹板侧叶间中隔的宽度大于长度;后胸腹 板侧叶分开。前翅鳞片状,侧置,在背部不毗连, 翅顶圆形, 到达第1腹节背板后缘, 翅长为宽的1.9 倍;后翅极小,不发达。后足股节上侧中隆线平 滑,下膝侧片顶圆形。后足胫节外侧具刺10个,具 外端刺,内侧具刺11个。跗节爪间中垫大,到达爪 之顶端。鼓膜器发达。肛上板盾形,端部三角形突 出,在基部中央具宽纵沟。尾须较长,向内向上弯 曲,基部较宽,中部细,端部呈宽弧形,后下角呈 圆弧形。下生殖板短锥形, 顶较钝。

体褐绿色。触角黄褐色。复眼深褐色。眼后带黑







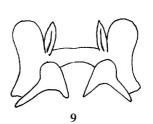


图 6~9 九龙拟裸蝗

Figs. 6-9 Conophymacris jiulongensis sp. nov.

6: 雄性腹端背面 ♂, terminalia, dorsal view ; 7: 雄性腹端側面 ♂, terminalia, lateral view ; 8: 雌性下生殖板 ♀, subgenital plate ; 9: 阳具基背片 Epiphallus.

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#### Appendix: Brief descriptions of new taxa

#### Conophymacris xianggelilaensis Niu et Zheng, sp. nov. (Figs. 1-4)

This new species related to *Conophymacris nigrofemora* Liang, 1993, but differs from the latter in: cerci of male folded on lower margin of apex; epiproct in male wider, maximum width longer than the length; epiphallus in different shape.

Length of body: ♂19.5-25 mm; ♀25.5-29 mm.

Length of pronotum: 35.8-6 mm; 96.5-7.2 mm.

Length of elytra: 34-5 mm; 94.5-5 mm.

Length of hind femur: 312-13 mm; 913.5-14 mm.

Holotype ♂, Yunnan: Xianggelila (Pushang), 3 000 m, 99° 7′ E, 27° 8′ N, 13-Sept. -1998, collected by Ou Xiao-Hong and Wu Xiao-Qiang; paratypes 30 ♂ 20 ♀, same data as holotype.

Etymology: The specific name is derived from the type locality Xianggelila, Yunnan Province.

#### Conophymacris jiulongensis Zheng et Shi, sp. nov. (Figs. 6-9)

This new species is allied to *Conophymacris viridis* Zheng, 1980, but differs from the latter in: lateral keels of pronotum of male straight; apical two thirds of hind tibia red, basal one third black, near basal part with light ring; length of elytra of female 1.25 times its width; hind margin of subgenital plate of female with three teeth, middle one large.

Length of body: 324 mm; 931-34 mm.

Length of pronotum: 35.5-6 mm; 96.5-7 mm.

Length of elytra: 34-4.5 mm; 94-5 mm.

Length of hind femur: 312-13 mm; 914.5-15 mm.

Holotype ♂, Sichuan: Jiulong (Hongba), 101° 5′E, 29° N, 23-Sept. -2008, collected by Shi Fu-Ming; paratypes 11 ♂ 12♀, same data as holotype.

Etymology: The specific name is derived from the type locality Jiulong, Sichuan Province.